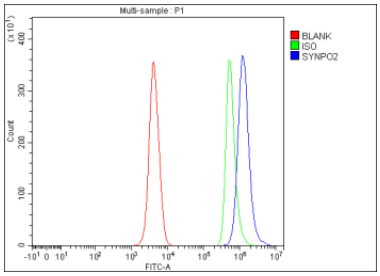
SYNPO2 Antibody / Synaptopodin 2 (FY12293)

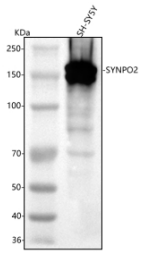
Catalog No.	Formulation	Size
FY12293	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q9UMS6
Applications	ELISA: 0.1-0.5ug/ml Western Blot: 0.25-0.5ug/ml Flow cytometry: 1-3ug/million cells
Limitations	This SYNPO2 antibody is available for research use only.



Flow Cytometry analysis of human SH-SY5Y cells using anti-SYNPO2 antibody. Overlay histogram showing SH-SY5Y cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-SYNPO2 antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample (Red line) was also used as a control.



Western blot analysis of SYNPO2 using anti-SYNPO2 antibody. Lane 1: human SH-SY5Y whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-SYNPO2 antibody at 0.25 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. Expected molecular weight of SYNPO2 ~118 kDa. In human tumor cell lysate we observe a heavy doublet at ~150 kDa. While peer-reviewed published Western blots of SYNPO2 do not consistently list a 150~160 kDa band, the gene is known to encode multiple splice variants and exhibits variable apparent migration. The upward shift likely reflects a longer isoform or post-translationally modified/complexed form of SYNPO2.

Description

SYNPO2 antibody detects Synaptopodin-2, encoded by the SYNPO2 gene on chromosome 4q26. SYNPO2 antibody is widely used in muscle biology, actin cytoskeleton research, and cancer studies. Synaptopodin-2 is an actin-associated protein highly expressed in muscle tissues, where it regulates cytoskeletal dynamics, sarcomere organization, and cellular migration. It is involved in stress fiber formation and focal adhesion assembly, contributing to cell shape and motility.

Structurally, Synaptopodin-2 is a large protein of ~118 kDa with multiple proline-rich motifs, actin-binding sites, and SH3-binding domains. It interacts with alpha-actinin, zyxin, and other cytoskeletal regulators. Alternative isoforms generated by splicing are expressed in specific tissues, providing diversity in cytoskeletal regulation. Synaptopodin-2 localizes to actin filaments, focal adhesions, and stress fibers.

Functionally, Synaptopodin-2 modulates actin filament bundling, focal adhesion dynamics, and muscle fiber organization. It is essential for maintaining sarcomere integrity and supports repair processes after muscle injury. Researchers use SYNPO2 antibody to investigate cytoskeletal dynamics, mechanotransduction, and muscle physiology.

Clinically, mutations in SYNPO2 have been linked to myopathy and other muscle disorders. Dysregulation of Synaptopodin-2 expression is associated with cancer progression, where it influences invasion and metastasis. Its actin-regulatory role positions it as a biomarker of cytoskeletal remodeling and tumor aggressiveness. NSJ Bioreagents provides SYNPO2 antibody for research in cytoskeleton biology, muscle pathology, and oncology.

Experimentally, SYNPO2 antibody is used in western blotting to detect the ~118 kDa protein, in immunofluorescence to visualize stress fiber association, and in immunohistochemistry to study expression in muscle and tumor tissues. Co-immunoprecipitation with SYNPO2 antibody identifies cytoskeletal partners including alpha-actinin and zyxin.

Application Notes

Optimal dilution of the SYNPO2 antibody should be determined by the researcher.

Immunogen

E.coli-derived human SYNPO2 recombinant protein (Position: L104-R1009) was used as the immunogen for the SYNPO2 antibody.

Storage

After reconstitution, the SYNPO2 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Copyright © NSJ Bioreagents. All rights reserved.